

WHAT IS CLAIMED IS:

1. A process for manufacturing thermosetting powder coating compositions, comprising:
  - A) feeding a base material to an extruder from an initial position;
  - B) adding at least one hard to incorporate additive to the base material after the base material enters the extruder and before it exits the extruder; and
  - C) passing the combined base material and hard to incorporate additive(s) through at least a portion of the extruder to form a thermosetting powder coating composition.
2. The process of Claim 1, further comprising the step of D) monitoring the output from the extruder and dynamically adjusting, as needed, the amount of hard to incorporate additive(s) added to the extruder in step B) to dynamically control the manufactured thermosetting powder coating based upon the monitored output.
3. The process of Claim 1, wherein the base material travels through a portion of the extruder before the addition of hard to incorporate additive(s) in step B).
4. The process of Claim 1, wherein the hard to incorporate additive(s) are introduced to the extruder at the initial position.
5. The process of Claim 1, wherein steps A-C) are repeated for different thermosetting powder coatings, and wherein the different thermosetting powder coatings utilize a common base material.
6. The process of Claim 1, wherein the hard to incorporate additive comprises pigment(s).

7. The process of Claim 1, wherein the hard to incorporate additive comprises pigment(s) dispersed in a liquid pigment dispersion.
8. The process of Claim 1, wherein the hard to incorporate additive comprises pigment(s) dispersed in a dried liquid pigment dispersion.
9. The process of Claim 1, wherein the hard to incorporate additive comprises one or more flow additives.
10. The process of Claim 1, wherein the addition of step B) is by injection.
11. The process of Claim 10, wherein the injection uses:
  - a low pressure vessel;
  - a source of pressurization coupled to the pressure vessel;
  - a mechanism for maintaining the pressure in the pressure vessel less than 100 psi;
  - a flow regulator; and
  - an injector outlet downstream of the flow regulator.
12. The product formed by the process of Claim 1.
13. A process for manufacturing thermosetting powder coating compositions, comprising:
  - A) feeding a base material to an extruder from an initial position;
  - B) adding at least one hyperdispersed pigment to the base material; and
  - C) passing the combined base material and hyperdispersed pigment(s) through at least a portion of the extruder to form a thermosetting powder coating composition;

wherein the hyperdispersed pigment(s) in step B) are added either separately from the base material or with the base materials, and when added with the base material, the hyperdispersed pigment(s) are in the form of a dried liquid pigment dispersion that has been formed from a liquid pigment dispersion comprising greater than 5 weight percent organic solvent.

14. The process of Claim 13, further comprising the step of D) monitoring the output from the extruder and dynamically adjusting, as needed, the amount of hard to incorporate additive(s) added to the extruder in step B) to dynamically control the manufactured thermosetting powder coating based upon the monitored output.

15. The process of Claim 13, wherein steps A-C) are repeated for different thermosetting powder coatings, and wherein the different thermosetting powder coatings utilize a common base material.

16. The product formed by the process of Claim 13.

17. A process for dynamic color control in a thermosetting powder coating extrusion process, the color control process comprising the steps of:

A) determining an amount of hyperdispersed pigment(s) to be added to base material introduced to an extruder to form a thermosetting powder of a desired color;

B) adding the determined amount of hyperdispersed pigment(s) to the base material;

C) monitoring the output of the extruder for accuracy of the color of the thermosetting powder coating; and

D) dynamically adjusting, as necessary, the amount of pigment(s) added at step B) based upon the monitored output;

wherein the base material travels through a portion of the extruder before the addition of pigment(s) in step B), or the pigment(s) added in step B) are added to the

extruder at the same location as the base material, or the pigment(s) added in step B) are added to the extruder with the base material, and when added to the extruder with the base material, the pigment(s) are in the form of a dried liquid pigment dispersion formed from a liquid dispersion comprising greater than 5 weight percent organic solvent.

18. The process of Claim 17, wherein steps A-D) are repeated for different thermosetting powder coatings having different colors and/or different formulations, and wherein the different thermosetting powder coatings utilize a common base material.

19. The process of Claim 17, wherein the pigment(s) are added in the form of a liquid pigment dispersion after the base material travels through a portion of the extruder or at the same location as the base material.

20. The product made by the process of Claim 17.

21. The process of Claim 13, wherein the addition of step B) is by injection.

22. The process of Claim 21, wherein the injection uses:  
a low pressure vessel;  
a source of pressurization coupled to the pressure vessel;  
a mechanism for maintaining the pressure in the pressure vessel less than 100 psi;  
a flow regulator; and  
an injector outlet downstream of the flow regulator.

23. The process of Claim 17, wherein the addition of step B) is by injection.

24. The process of Claim 23, wherein the injection uses:

- a low pressure vessel;
- a source of pressurization coupled to the pressure vessel;
- a mechanism for maintaining the pressure in the pressure vessel less than 100 psi;
- a flow regulator; and
- an injector outlet downstream of the flow regulator.